

## OPERATIONAL RULES SOURCE AND PUMPS/ CONTROLS

SECTION 8. 327 IAC 8-13-8 IS ADDED TO READ AS FOLLOWS:

### 327 IAC 8-13-8 Source, pumps, and control valves

Authority:

Affected:

#### Definitions:

“Pumping Water level” means the vertical distance in feet from the centerline of the pump discharge to the level of the free pool while water is being drawn from the pool.

“Pumping Test” Dale Pershing to send in info

“Specific capacity” means the rate of discharge of a production well per unit of drawdown. This term is commonly expressed as a unit of volume produced from a well within a unit of time per length or depth of drawdown.

“Static water level” means the level of water (including seasonal fluctuations) in the production well that is not influenced by pumping.

“Well Yield” means

Sec. 8. (a) Source requirements are as follows:

(1) Requirements for wells are as follows:

(A) Wells must be constructed according to 327 IAC 8-3.4-1.

(B) Pumping tests shall be conducted no less frequently than once in a two year period.

(C) Pumping tests shall be used to determine specific capacity or efficiency of the well.

(D) Static water levels and pumping water levels shall be monitored according to the following:

(1) DSS and DSM shall monitor once per month.

(2) DSL and WT1 shall monitor twice a month.

(3) WT2, WT3, WT4, and WT5 shall monitor weekly.

(E) Well logs shall be kept on hand for each well. If well logs are not available at the time of this rule, well depth shall be determined when pumps are removed for repair.

(F) Wells shall be cleaned if a specific capacity test determines that the well is running at eighty-five percent (85 %) specific capacity calculated at normal flow rate or from the most recent pump test.

(G) Cleaning reports shall be kept on hand for the life of the well.

(2) Requirements for surface intakes are as follows:

(A) The velocity of flow must be two and a half tenths (0.25) to five tenths (0.50) feet per second (fps) through the inlet structure so that frazil ice will be held to a minimum.

(B) Withdrawal of water must be taken from the depth of the best water quality.

(C) Manholes must be inspected every one thousand (1,000) feet for pipes large enough to permit visual inspection.

(D) Protection must be provided against rupture due to dragging anchors, ice, and other activities.

(E) Location must be reference by permanent monuments.

(F) Diversion devices must be capable of keeping large quantities of fish or debris from entering an intake structure where shore wells are not provided.

(G) As built drawings must be provided

(H) Impoundments and reservoirs shall be inspected and maintained to assure the following:

(i) Water quality is protected by controlling runoff into the reservoir by diversion around reservoir.

(ii) Dikes are structurally sound and protected against wave action and erosion.

(iii) Point of influent flow is separated from the point of withdrawal.

(iv) Separate pipes are provided for influent to and effluent from the reservoir.

(I) Spillways (*get input from group*)

(J) Service Outlets (*get input from group*)

(3) Raw water lines are to be identified from other types of water transmission lines.

(4) Wellhead and source protection requirements are as follows:

(A) An approved wellhead program must be in place for community water systems.

(B) The following items shall be taken into consideration to protect water supplies from the entrance of contaminants:

(i) Sources of contamination include:

(aa) Privies.

(bb) Septic tanks.

(cc) Cesspools

(dd) Sewers (storm, sanitary, combined, and sewer service connections).

(ee) Subsurface seepage-disposal lines.

(ff) Pits or ponds receiving fluids such as surface waters, oils, and grease.

(gg) Flood waters.

(ii) Structures to be protected include:

(aa) Wells.

- (bb) Clear water reservoirs such as pressure equalizing reservoirs, collecting reservoirs, and finished water clear wells.
- (cc) Suction lines.
- (dd) Gravity filters.
- (ee) Iron removal, chlorine reaction, and wet salt storage basins.

**(5) Security of source**

What should be on Web site? (*discuss with group*)

**(6) Emergency response requirements are as follows:**

- (A) A plan that would incorporate contacting IDEM and consumers (*discuss with group*).
- (B) Backup electric power in case of electrical outages.
- (C) A plan to provide potable water to consumers.
- (D) Official custodians of a public water system shall protect the water supply from contamination when any part of the system is out of service for repair, construction, alteration, or replacement.
- (E) Any part of a public water system which has direct contact with finished water and has been out of service for repair, alteration, or replacement shall be disinfected in accordance of AWWA Standards C651.
- (F) Equipment which does not come in contact with finished water such as raw surface water pumps, raw surface water transmission lines, chemical mixing tanks, and clarifiers need only be flushed before being returned to service.
- (G) Filters shall be disinfected.
- (H) Wells, water storage tanks, and water mains shall be disinfected in accordance with AWWA Standards A100, D105, and C601 respectively.

**(7) Requirements for emergency operation are as follows:**

- (A) A boil order shall be issued when bacteriological analyses show persistent low level contamination or gross contamination. The boil order shall remain in effect until requirements of this rule (*emergency operation section*) are met. Issuance of a boil order does not relieve the water system from making public notification in accordance with 327 IAC 8-2.1.
- (B) Owners and operators of a public water system shall immediately notify the Agency at the appropriate Regional Office when there is knowledge or suspicion that a water supply has been contaminated. On weekends, holidays, and after office hours, the Agency may be reached through the Agency Emergency Response.

**(b) A public water system must comply with the following pump and control valve requirements:**

- (1) The following are requirements concerning lubrication:**
  - (A) Water lubricated pumps are required, except where oil lubricated pumps are necessary to provide positive lubrication at deep pump settings. The oil for pump lubrication shall be a food grade mineral oil.**
  - (B) All prelubricating lines shall be equipped with metering controls to monitor and limit the volume of prelubrication water.**
  - (C) Lubrication should follow the manufacturer's recommendations unless more lubrication is needed.**
- (2) Testing of high service pumps should incorporate the following to ensure maximum operating efficiency and minimum maintenance expenditures:**
  - (A) Priming. *(Expand and discuss with group)***
  - (B) Packing and seals. *(Expand and discuss with group)***
  - (C) Bearings. *(Expand and discuss with group)***
  - (D) Vibration. *(Expand and discuss with group)***
  - (E) Alignment. *(Expand and discuss with group)***
  - (F) Sensors and controls. *(Expand and discuss with group)***
  - (G) Pressure gauges. *(Expand and discuss with group)***
- (3) Requirements for booster pumps are as follows:**
  - (A) Automatic control equipment shall be installed to prevent the pump from causing a vacuum and lowering water pressure in any part of the distribution system to less than twenty (20) psi as measured at ground surface.**
  - (B) Pressure for portions of a distribution system served by a booster pump station shall be provided during periods when the booster pump station is not in operation.**
  - (C) All booster-pumping stations shall contain a totalizer meter.**
- (4) The location, type, and capacity of each pump must be shown.**  
***(Discuss on how to show)***
- (5) Pump setting and level must be shown in the well.**
- (6) Pump shutoff valve requirements are as follows:**
  - (A) Pumps shall be adequately valved to permit satisfactory operation, maintenance, and repair of the equipment.**
  - (B) If foot valves are necessary, they shall have a net valve area of at least two and a half times the area of the suction pipe and they shall be screened.**
  - (C) Each pump shall have a positive-acting check valve on the discharge side between the pump and the shut-off valve.**
- (7) Each pump on the pressure side must have the following:**
  - (A) A standard pressure gauge on its discharge line.**
  - (B) A compound gauge on its suction line.**
  - (C) Recording gauges in the larger stations.**
  - (D) A means for measuring discharge.**

